WHAT IS CLAIMED IS:

1. A method for measuring network performance, comprising:

dividing packets flowing through a first point into frames, the first point being any point in the network that supports a packet flow;

capturing information about the packets in packages that correspond to the frames;

correlating each package with packets flowing through a second point, the second point being any point in the network that supports the packet flow; and

calculating network performance information based on the correlated packages.

10   2. The method of claim 1, wherein the dividing step comprises:

selecting a header associated with the packets flowing through the first point;

associating the header with the packet flow; and

storing the header in a storage associated with the packet flow.

15   3. The method of claim 2, wherein the dividing step further comprises:

incrementing a packet count; and

detecting duplicate packets.

4. The method of claim 3, wherein the detecting step comprises searching in the

20   storage for another header that matches the selected header.

5. The method of claim 3, wherein a duplicate packet count is incremented when a duplicate packet is detected.

25   6. The method of claim 2, wherein the storing step is repeated to form a sequence of headers in the storage.

7. The method of claim 6, wherein the step of storing the header further comprises:

storing header order of capture information in a second storage associated with the

30   selected header.

8. The method of claim 6, wherein the headers in the storage are stored in the form of a hash table data structure.

9. The method of claim 1, wherein the packets are Internet Protocol packets.

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10. The method of claim 1, wherein the step of capturing information comprises:

retrieving consecutive headers from a frame; and

forming a package including information that uniquely identifies consecutive packets corresponding to the consecutive headers.

11. The method of claim 10, wherein the step of forming a package further comprises:

setting the package size to represent the number of packet headers in the package.

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12. The method of claim 10, wherein the step of forming a package further comprises:

selecting a source information, a destination information, an Internet Protocol identifier, a fragment flag, and a fragment offset from each packet in the package as the information that uniquely identifies consecutive packets corresponding to the consecutive

20 headers

13. The method of claim 10, wherein the step of retrieving consecutive headers further comprises:

assigning a time stamp and locally-generated sequence number to each of the

25 consecutive headers.

14. The method of claim 10, wherein the step of retrieving consecutive headers further comprises:

retrieving last n headers in the frame, n being an integer number.

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15. The method of claim 1, further comprising:

storing in a storage a header associated with the packets flowing through the second point.

16. The method of claim 15, wherein the storing step comprises:

5   selecting the header;

associating the header with the packet flow; and

storing the header in a storage location associated with the packet flow.

17. The method of claim 16, wherein the step of storing the header further comprises:

incrementing a packet count; and

detecting duplicate packets.

18. The method of claim 17, wherein the detecting step comprises:

15   searching in the storage for another that matches the selected header.

19. The method of claim 17, wherein a duplicate packet count is incremented when a duplicate packet is detected.

20   20. The method of claim 15, wherein the step of storing the header in a storage location is repeated to form a sequence of headers in the storage and further comprises:

storing header order of capture information in a second storage, the second storage being associated with the selected header.

25   21. The method of claim 1, wherein the correlating step comprises:

associating each package with the packet flow;

searching for a match between packet information selected in each package and stored header information corresponding to the packet flow; and

calculating a destination frame size.

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22. The method of claim 21, wherein the step of calculating a destination frame size comprises:

determining a number of packets in between a match of a previous package and a match of a present package.

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23. The method of claim 21, wherein the searching step comprises examining a number of stored packet headers in the storage.

24. The method of claim 1, wherein the step of calculating network performance

10   comprises:

determining a number of packets lost between the first point and the second point in the network.

25. The method of claim 24, wherein the step of determining the number of packets lost comprises:

determining a source frame size from a correlated package;

calculating a destination frame size;

subtracting the destination frame size from the source frame size; and

20   adding a number of duplicate packets generated between the first point and second point in the network to the subtraction of the destination frame size from the source frame size.

26. The method of claim 1, wherein the step of calculating network performance

25   comprises:

determining a delay experienced by a packet flowing from the first point to the second point in the network.

27. The method of claim 26, wherein the step of determining the delay comprises:

30   determining a first time at which a packet associated with a correlated package flows through the first point in the network;

determining a second time at which the packet flows through the second point in the network; and

subtracting the first time from the second time.

5   28. The method of claim 1, wherein the step of calculating network performance comprises:

calculating a number of duplicate packets created between the first point and the second point.

10   29. The method of claim 28, wherein the step of calculating the number of packet duplicates comprises:

counting duplicate packets at the first point;

counting duplicate packets at the second point; and

subtracting the count of duplicate packets at the first point from the count of

15   duplicate packets at the second point.

30. A method for measuring network performance, comprising:

retrieving packet headers from a first class of packets at a first point in the network, the first point being any point in the network that supports a flow of either the first class of

20   packets or a second class of packets carrying information corresponding to the packets of the first class;

selecting packet headers retrieved at the first point that correspond to a packet flow;

maintaining a first header storage to store the selected headers as the first class of

25   packets flow through the first point;

retrieving packet headers from the first class of packets at the second point in the network, the second point being any point in the network that supports a flow of either the first class of packets or the second class of packets;

selecting packet headers retrieved at the second point that correspond to the packet

30   flow;

maintaining a second header storage to store the selected headers as the first class of packets flow through the second point;

creating a package including information from the first header storage;

sending the package to a monitor associated with the retrieval of packet headers at the second point;

correlating the package with information from the second header storage; and

calculating network performance information using a result of the correlation.

31. A system for measuring network performance comprising:

at least a first and a second monitoring device for monitoring packets associated with a plurality of packet flows and connected to any point in the network; and

at least a first and a second processing device for determining network performance information, each processing device respectively connected to each of the first and second monitoring devices.

32. The system of claim 31, wherein the first processing device comprises a source device that divides packets accessed via the first monitoring device into frames and captures information about the packets in packages corresponding to the frames; and the second processing device comprises a destination device that correlates each package with packets accessed via the second monitoring device and that calculates the network performance information based on the correlated packages; wherein the monitoring devices monitor a packet flow from the plurality of packet flows.

33. The system of claim 32, wherein the source device includes a processor for selecting a header associated with the packets accessed via the first monitoring device, for associating the header with the packet flow, and for storing the header in a storage.

34. The system of claim 32, wherein the captured information about the packets comprises:

source information;

destination information;

an Internet Protocol identifier;

a fragment offset; and

a fragment flag.

35. The system of claim 32, wherein the packages include running duplicate packet count, locally-generated sequence number, and locally-generated time stamp information for each packet in the package.

36. The system of claim 32, wherein the packages include a packet flow identifier, a frame number, and a package size.

37. A method for measuring performance of a network, said method comprising the steps of:

dividing packets flowing through a first point into frames, the first point being any

15   point in the network that supports a packet flow;

collecting information about the packets and the frames;

correlating the collected information with packets flowing through a second point, the second point being any point in the network that supports the packet flow; and

calculating the performance of the network based on the correlated information.

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38. A method for measuring performance of a network, said method comprising the steps of:

dividing packets flowing through a first point into frames, the first point being any point in the network that supports a packet flow;

25   receiving information about the packets and the frames;

correlating the received information with packets flowing through a second point, the second point being any point in the network that supports the packet flow; and

calculating the performance of the network based on the correlated information.

30   39. The method of claim 38, wherein the step of receiving information comprises:

receiving packages that correspond to the frames and that include information about the packets and the frames.

40. A method for measuring performance of a network, said method comprising

5   the steps of:

dividing packets flowing through a first point into frames, the first point being any point in the network that supports a packet flow; and

capturing information about the packets and frames, such that the information is correlated with packets flowing through a second point in the network that supports the

10   packet flow.

41. The method of claim 40, wherein the step of capturing information comprises: capturing information about the packets in packages that correspond to the frames.